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REMARKS

This response is intended as a full and complete response to the non-final Office Action mailed on February 24, 2005. In the Action, the Examiner notes that claims 32-44 are pending and rejected.

In view of the following discussion, the Applicants submit that none of the claims now pending in the application are obvious under the provisions of 35 U.S.C. §103. Thus, the Applicants believe that all these claims are now in allowable form.

It is to be understood that the Applicants do not acquiesce to the Examiner's characterizations of the art of record or to the Applicants' subject matter recited in the pending claims. Further, the Applicants are not acquiescing to the Examiner's statements as to the applicability of the prior art of record to the pending claims by filing the instant.

REJECTION OF CLAIMS UNDER 35 U.S.C. §103(a)**Claims 32-34, 36-41 and 43-44**

The Examiner has rejected claims 32-34, 36-41 and 43-44 under 35 U.S.C. §103(a) as being unpatentable over Adams (US 6,044,396, hereinafter "Adams") in view of Voois (US 6,404,776, hereinafter "Voois"). The Applicants respectfully traverse the rejection.

To establish prima facie obviousness of a claimed invention, all the claim limitations must be taught or suggested by the prior art. *In re Royka*, 490 F.2d 981, 180 USPQ 580 (C.C.P.A. 1974). All words in a claim must be considered in judging the patentability of that claim against the prior art. *In re Wilson*, 424 F.2d 1382, 1385, 165 USPQ 494 496 (C.C.P.A. 1970), M.P.E.P. 2143.03. Moreover, the mere fact that a prior art structure could be modified to produce the claimed invention would not have made the modification obvious unless the prior art suggested the desirability of the modification. *In re Fritch*, 23 USPQ 2d 1780, 1783 (Fed. Cir. 1992); *In re Gordon*, 221 USPQ 1125, 1127 (Fed. Cir. 1984).

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The test under 35 U.S.C. §103 is not whether an improvement or a use set forth in a patent would have been obvious or non-obvious; rather the test is whether the claimed invention, considered as a whole, would have been obvious. Jones v. Hardy, 110 USPQ 1021, 1024 (Fed. Cir. 1984) (emphasis added). Thus, it is impermissible to focus either on the "gist" or "core" of the invention, Bausch & Lomb, Inc. v. Barnes-Hind/Hydrocurve, Inc., 230 USPQ 416, 420 (Fed. Cir. 1986) (emphasis added). Moreover, the invention as a whole is not restricted to the specific subject matter claimed, but also embraces its properties and the problem it solves. In re Wright, 6 USPQ 2d 1959, 1961 (Fed. Cir. 1988) (emphasis added).

Adams and Voois alone or in combination fail to teach or suggest the Applicants' invention as a whole.

Applicants' independent claims 32 and 40 recite, respectively:

32. "In an information distribution system comprising server equipment for providing both content and non-content data to subscriber equipment, said server equipment comprising:

a multiplex switch for multiplexing a plurality of formatted content streams from server modules to produce an output stream that is adapted for transport via a communication channel, wherein said multiplexing of said formatted content streams is statistically performed; wherein said multiplex switch is further for formatting non-content data and for selectively multiplexing formatted non-content data into said output stream, and wherein said multiplexing of formatted non-content data is on a bandwidth availability basis that is predicted based on said multiplexing of said formatted content streams." (Emphasis added)

40. "A method of providing content and non-content data to subscriber comprising the steps of:

statistically multiplexing a plurality of formatted content streams to produce an output stream that is adapted for transport via a communication channel;

formatting non-content data to fit the output stream;

predicting bandwidth availability based on the statistical multiplexing of the formatted content streams; and

selectively multiplexing formatted non-content data into said output stream on a bandwidth availability basis." (Emphasis added).

Adams discloses a system for allocating resources by utilizing a multiplexer that selects from among encoded information streams according to a round robin scheme.

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Each video stream has a video buffer. "If and when all of the video buffers are empty then a selector passes data from the application buffer to the output buffer. The selector will continue reading from the application buffer until data is detected in one or more of the video buffers. At that time, the selector will again read from the video buffers in a round-robin fashion." (See Adams column 4, line 52 to column 5, line 8; and Adam's FIG. 5).

In particular, Adams discloses "a selector transmit processor 408 reads data from the output buffer for modulation onto a channel and transmission over the network 110. The data stored in each buffer slot is preferably in the form of an MPEG-2 transport packet.

"The selector 404 of the present invention decides which data stream is to be given access to a channel of the network 110. Because of the real time constraints on the display of video data, the video streams must be given higher priority than the application data. If a video packet is lost or delayed, such an error will cause a noticeable effect on the video display. In contrast, the application or control information transmitted is typically not as sensitive to packet delay or loss. Accordingly, the selector 404 allocates the application data stream to a low priority access to the network. In accordance with this priority allocation, the selector selects the data stream to be forwarded to the network 110 according to the state diagram of FIG. 5." (See, Adams, col. 4, lines 33-64).

Nowhere in Adams is there any teaching or suggestion of the feature "wherein said multiplexing of formatted non-content data is on a bandwidth availability basis that is predicted based on said multiplexing of said formatted content streams."

A significant difference between Adams and the pending claims is that the pending recite that the non-content data is formatted for transmission. This feature is completely lacking in Adams. The Examiner acknowledges that formatting non-content data for transmission is not taught, suggested or disclosed in Adams. Thus, "wherein said multiplexing of formatted non-content data is on a bandwidth availability basis that is predicted based on said multiplexing of said formatted content streams" is not taught, suggested or disclosed by Adams. Thus, the operative invention is completely different

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from Adams since the Applicants' invention formats the non-content data, while Adams does not teach or suggest that any such formatting is performed.

Voois fails to bridge the substantial gap between Adams and the Applicants' invention. Voois does not suggest, teach or disclose "multiplexing of formatted non-content data is on a bandwidth availability basis that is predicted based on said multiplexing of said formatted content streams." Voois discloses that different types of data can be formatted and multiplexed through a common communications channel (See Voois, Column 4, lines 50-54). Voois also discloses that the multiplexer indicated the amount of unused space in the buffer to a predictive filter. If the bandwidth is not optimal or the channel is unable to transmit all the data at the desired rate, the predictive filter will inform the video codec and it will transmit the video at a slower rate thereby reducing the amount of error in the transmission channel (See Voois, Col 11, lines 44-59). However, Voois does not suggest or teach multiplexing of formatted non-content data on a bandwidth availability basis that is predicted based on said multiplexing of said formatted content streams. More specifically, Voois tries to improve the transmission not by controlling the transmission of the non-content data, but by reducing the transmission rate of the content data. Thus, Voois does not suggest or teach multiplexing of formatted non-content data on a bandwidth availability basis that is predicted based on said multiplexing of said formatted content streams.

In addition, there is no suggestion or motivation, either in the references themselves or for an ordinary person skilled in the art, to modify or combine the prior art teachings. Voois is non-analogous art, and the disclosure of Voois in its entirety teaches away from the present invention. (See MPEP 2143.01 and 2141.02). Voois is in the area of multimedia communication wherein video, audio and other information from a multimedia terminal are multiplexed and transmitted over a shared communication channel such as on a telephone line. Voois makes no reference or suggestion that this video processing arrangement is applicable to an information distribution system such as a video-on-demand (VOD) system. Even assuming Voois arrangement is applicable to a VOD system, Voois, as a whole, teaches away from the present claimed invention. Voois suggests that in order to ensure sufficient bandwidth

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while transmitting, the quality of the video will be reduced by reducing the size of the compressed video packet and renegotiate the transmission rate. On the other hand, the present invention does not sacrifice the quality of the video and audio packets in order to transmit non-content data. The disclosure of Voois would lead an ordinary person skilled in the art to a different solution than the one reached by the Applicants. Therefore, in light of disclosure that teaches away from the invention, a reference disclosing transmitting non-content data only when all the video packets have been transmitted combined with transmitting formatted non-content data independent of the transmission of multiplexed content data would not suggest "said multiplexing of formatted non-content data is on a bandwidth availability basis that is predicted based on said multiplexing of said formatted content streams."

Furthermore, the Examiner used an aspect of the prior art's multiplexer/data processing equipment to show a general motivation of the desire to maximize the amount of data to be transmitted. That motivation would not lead to the solution of the present invention because the problem that the prior art is trying to solve is different than the problem the Applicants are trying to solve. The problem the present invention is trying to solve is regarding applications, such as video on demand, when out-of-band transmission is not possible. This can be because an out-of-band channel that services the complete distribution system may not exist or because of cost or other considerations. Neither reference contemplated that situation. The references fail to appreciate the problems the Applicants are trying to solve.

The Examiner also used improper hindsight reasoning. The teachings of Adams and Voois discussed above did not show any motivation to combine the references. In particular, nowhere is there any teaching or suggestion that "wherein said multiplexing of formatted non-content data is on a bandwidth availability basis that is predicted based on said multiplexing of said formatted content streams." That is, they fail to teach, or even suggest, that the selector of Adams or Voois has any capability or that it is desirable to multiplex the non-content data for transmission determined by predicted available bandwidth based on multiplexing of formatted content stream. Thus, there is no express, written motivation. In addition, there is no motivation in the nature of the

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problem they are trying to solve or the knowledge of ordinary skilled in the art. Therefore, Adams and Voois fail to teach or suggest the Applicants' invention as a whole.

The limitation "wherein said multiplexing of formatted non-content data is on a bandwidth availability basis that is predicted based on said multiplexing of said formatted content streams" is not taught, suggested or disclosed in Adams or Voois. As such, the Applicants submit that independent claims 32 and 40 are not obvious and fully satisfy the requirements of 35 U.S.C. §103 and are patentable thereunder. Furthermore, claims 33-34, 36-39, 41, and 43-44 respectively depend from independent claims 32 and 40 and recite additional limitations thereof. As such, and at least for the same reasons as discussed above, the Applicants submit that these dependent claims are also not obvious and fully satisfy the requirements of 35 U.S.C. §103 and are patentable thereunder. Therefore, the Applicants respectfully request that the Examiner's rejections be withdrawn.

Claims 35 and 42

The Examiner has rejected claims 35 and 42 under 35 U.S.C. §103(a) as being unpatentable over Adams in view of Voois as applied to claims 33 and 40 above, and further in view of Krause et al. (US 5,877,812, hereinafter "Krause"). The Applicants respectfully traverse the rejection.

Claims 35 and 42 are dependent, directly or indirectly, respectively, upon independent claims 32 and 40 and recite additional limitations thereof. For at least the reasons discussed above with respect to independent claims 32 and 40, Adams and Voois alone or in combination fail to teach or suggest the Applicants' invention as a whole.

Furthermore, Krause fails to bridge the substantial gap between Adams and Voois and the Applicants' invention. Krause does not suggest, teach or disclose "multiplexing of formatted non-content data is on a bandwidth availability basis that is predicted based on said multiplexing of said formatted content streams." Krause discloses a way to encode, format and distribute compressed video programs. Krause

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is concerned with reducing the size of data rate fluctuations that occur in forming a multiplex of a set of program streams. Krause makes no mention of the desirability of formatting non-content data and transmitting that data based on the multiplexed formatted content streams. Thus, Adams, Voois and Krause, singly or in combination, fail to suggest, teach or disclose "multiplexing of formatted non-content data is on a bandwidth availability basis that is predicted based on said multiplexing of said formatted content streams." To establish prima facie obviousness of a claimed invention, all the claim limitations must be taught or suggested by the prior art. Therefore, the 35 U.S.C. §103 should be withdrawn.

As such, the Applicants submit that independent claims 32 and 40 are not obvious and fully satisfy the requirements of 35 U.S.C. §103 and are patentable thereunder. Furthermore, claims 35 and 42 depend, directly or indirectly, respectively from independent claims 32 and 40 and recite additional limitations thereof. As such, and at least for the same reasons as discussed above, the Applicants submit that these dependent claims are also not obvious and fully satisfy the requirements of 35 U.S.C. §103 and are patentable thereunder. Therefore, the Applicants respectfully request that the Examiner's rejections be withdrawn.

THE SECONDARY REFERENCES

The secondary references made of record are noted. However, it is believed that the secondary references are no more pertinent to the Applicants' disclosure than the primary references cited in the office action. Therefore, the Applicants believe that a detailed discussion of the secondary references is not necessary for a full and complete response to this office action.

CONCLUSION

Thus, the Applicants submit that all the claims presently in the application are in condition for allowance. Accordingly, both reconsideration of this application and its swift passage to issue are earnestly solicited.

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If, however, the Examiner believes that there are any unresolved issues requiring adverse final action in any of the claims now pending in the application, it is requested that the Examiner telephone Eamon J. Wall, Esq. at (732) 530-9404 so that appropriate arrangements can be made for resolving such issues as expeditiously as possible.

Respectfully submitted,

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EJ Wall

Eamon J. Wall, Attorney
Reg. No. 39,414
(732) 530-9404

Moser, Patterson & Sheridan, LLP
Attorneys at Law
595 Shrewsbury Avenue, Suite 100
Shrewsbury, New Jersey 07702

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